

METHODS AND APPARATUS FOR DISINFECTING AND STERILIZING FLUIDS USING ULTRAVIOLET RADIATION

ABSTRACT

5 An apparatus for sterilizing or disinfecting fluids, which comprises a fluid
conduit, an ultraviolet light source, which is at least partially within the fluid conduit, and
an air drive unit coupled to the fluid conduit. The ultraviolet light source generates an
ultraviolet light, which kills microorganisms in the fluid, thus sterilizing or disinfecting
the fluid. The air drive unit creates air bubbles in the fluid, such as for fish tanks, fish
10 hatchery ponds, or the like. In accordance with one embodiment of the present invention,
the ultraviolet light source comprises an ultraviolet light bulb being surrounded by a
protective sleeve. The protective sleeve preferably comprises a UV transmissive
material, which may comprise a fluoropolymer material, such as PTFE, FEP, PFA, AF
and Tefzel ETFE.

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